DOCUMENT RESUME

ED 243 939 TM 840 252

AUTHOR Zusman, Barbara J.; Duby, Paul B.
TITLE An Evaluation of the Use of Token Monetary Incentives in Enhancing the Utility of Postsecondary Survey Research Techniques.
PUB DATE Apr 84
NOTE 16p.; Paper presented at the Annual Meeting of the American Educational Research Association (68th, New Orleans, LA, April 23-27, 1984).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS *Incentives; *Institutional Research; Motivation Techniques; Postsecondary Education; Questionnaires; Responses; *Surveys; Transfer Students; *Undergraduate Students
IDENTIFIERS Mail Surveys; *Monetary Incentives; *Response Rates (Questionnaires)

ABSTRACT

The purpose of this study was to evaluate the effectiveness of a token monetary incentive for improving response rates to a mail questionnaire with a difficult to survey postsecondary student population. The results demonstrate that by using a monetary incentive, a substantial improvement in response rate can be achieved at a reasonable cost per respondent without affecting the representativeness of the respondent group. In addition, a single mailing which included an incentive was found to be much more effective at eliciting responses than two mailings to an identical group which did not receive the incentive. (Author)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☐ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL IN MICROFICHE ONLY HAS BEEN GRANTED BY
Barbara J. Zusman
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

ED243939

TM 840 252

AN EVALUATION OF THE USE OF TOKEN MONETARY INCENTIVES IN ENHANCING THE UTILITY OF POSTSECONDARY SURVEY RESEARCH TECHNIQUES

Barbara J. Zusman
Paul B. Duby

University of Illinois at Chicago

The purpose of this study was to evaluate the effectiveness of a token monetary incentive for improving response rates to a mail questionnaire with a difficult to survey postsecondary student population. The results demonstrate that by using a monetary incentive, a substantial improvement in response rate can be achieved at a reasonable cost per respondent without affecting the representativeness of the respondent group. In addition, a single mailing which included an incentive was found to be much more effective at eliciting responses than two mailings to an identical group which did not receive the incentive.

INTRODUCTION

The need to attract and retain students has become a critical concern for many, if not most, postsecondary educational institutions. Furthermore, it is clear that as the pool of traditional college age students diminishes, these issues will only increase in importance. Institutional researchers studying recruitment and retention have found that student input is an integral part of the enrollment planning process. Decision-makers need information on students' backgrounds, experiences, opinions, and educational plans which cannot be obtained solely from analyses of institutional records. Therefore, research efforts using survey techniques play an important role in providing data for academic planning and policy

development.

Given the constraints of time, resources, and personnel, as well as the wide geographic dispersion of students at commuter institutions, the mail questionnaire may be the only acceptable method of obtaining student survey data. A major drawback of the mail questionnaire, however, is poor response rate, which seriously affects the ability of the respondent group to represent the characteristics and attitudes of the survey population. It is not uncommon for institutional researchers to find their student survey efforts hampered by response rates of 30% to 40% (Matross, 1981), and this problem may be compounded when the subjects lack an association with the institution at the time of the study. Postsecondary students who have little motivation to participate in institutional research and have traditionally been difficult to survey include those who fail to complete the application process, those who are admitted but do not register for classes, dropouts, and alumni. It is theorized that potential and former students are less likely to respond to questionnaires than current students because they have a limited interest in the subject matter (Heberlein and Baumgartner, 1978), they lack commitment to the goals and success of the institution, and they will not be personally affected by policies and programs developed as a result of survey findings (Linsky, 1975).

Numerous techniques for improving response rates can be found in the research literature. Most are attempts to elicit responses by facilitating and/or motivating the completion and return of questionnaires. Among the most successful are (1) mechanical and perceptual factors including pre-contacts, multiple and intensive follow-ups, and impressive or

hand-stamped postage, (2) broad motivational factors such as cover letters from an important official or organization, and (3) direct motivational factors in the form of rewards (Linsky, 1975).

One of the most powerful techniques for motivating survey participation is the prepayment of token monetary incentives. Extensive reviews of the literature on incentives were conducted by Armstrong (1975) and Linsky (1975) who found that the use of a monetary incentive resulted in a consistently higher response rate when compared with a control group. In the twenty-seven different cases examined by Armstrong (1975) and Linsky (1975), response rates were increased by an average of 20% through the use of incentives, and in six instances the response rate for the group receiving the incentive was more than twice that of the control group. Previous studies have utilized incentives ranging from one penny to one dollar, but the quarter is considered to be the most cost-effective amount (Linsky, 1975). A greater improvement in response rates has been demonstrated with one dollar incentives, however (Armstrong and Overton, 1971; Blumberg, et al., 1974; Erdos, 1951; Hackler and Bourgette, 1973; Newman, 1962). Monetary incentives are most effective when prepaid rather than promised (Armstrong, 1975; Goodwin, 1979), and when enclosed with the first mailing of the questionnaire rather than with a follow-up (Huck and Gleason, 1974). While there is concern that the use of token incentives introduces response bias, there is no evidence to support this conclusion (Cox, 1976; Nederhof, 1983; Wotruba, 1966).

The few researchers who offer explanations for the successful use of incentives tend to stress the symbolic rather than the monetary value of the

incentive (Linsky, 1975; Wotruba, 1966). Incentives provide recognition for the accomplishment of an important task, rather than payment for the time and inconvenience involved in questionnaire completion (Linsky, 1975). When an incentive is offered in advance, its acceptance creates a feeling of obligation on the part of the subject and a need to reciprocate (Goodwin, 1979; Linsky, 1975). A similar explanation holds that psychological distress, called cognitive dissonance (Festinger, 1957), is caused by the incongruous actions of accepting the incentive without performing the requested service (Hackler and Bourgette, 1973). This sense of cognitive dissonance can be relieved by completing and returning the questionnaire.

Previous research on this particular method of response rate improvement may lack a theoretical foundation (Cox, 1976; Heberlein and Baumgartner, 1978), but the evidence that monetary incentives have a positive and often dramatic effect on response rates is overwhelming. Few studies have been published on incentives since the middle 1970's, however, and most were conducted in conjunction with general public or commercial surveys. Only one study could be located which investigated the use of incentives in a postsecondary student survey. In that study of current students who were living on campus, Huck and Gleason (1974) found that the response rate was increased by 18% over a control group by providing a quarter incentive.

There is a definite lack of literature on the use of incentives in student surveys. Information on this topic would enable institutional researchers to judge the merits of using this response rate improvement technique within the higher education setting, and would be particularly

useful for researchers who gather data on recruitment and retention issues from students who are unlikely to respond. It was the purpose of this study, therefore, to provide a current assessment of the effectiveness of a monetary incentive with a difficult to survey postsecondary student population, and to determine if an improvement in response rate could be obtained at a reasonable cost per respondent without affecting the representativeness of the respondent group.

METHODOLOGY

This study was conducted at a large, public, four-year postsecondary educational institution. All 371 undergraduate transfer students who first enrolled for the Fall 1982 term and voluntarily withdrew before the beginning of the next term were included as subjects.

A simple random sample, stratified on academic status (clear or probation), was utilized to select 200 experimental subjects and 171 members of a control group.* Each subject received a two-page questionnaire containing only research questions. In order to obtain corresponding demographic, academic, and performance characteristics from institutional records, students were asked to identify themselves by name and social security number. Ninety-three percent of the students complied with this request, and there was no difference between the experimental and control groups in this regard. Because data were collected from these two sources,

---

*The sum of $200 in non-state funds was made available for this project from the university foundation. This amount enabled the researchers to offer the one dollar incentive to each of 200 subjects, and thus accounts for the slight discrepancy in the size of experimental and control groups.

accurate information was available on the characteristics of both respondents and nonrespondents, the questionnaire was shortened considerably, and the overall survey costs were reduced by mailing the follow-up only to nonrespondents. A one-word instruction at the bottom of the first page of the questionnaire, presented in various formats, was used to distinguish between both the experimental and control groups and the respondents to the first and second mailings. Cover letters had personalized inside addresses and salutations, and were signed by a key official of the Office of Academic Affairs. The letters emphasized the importance of the survey project and the opportunity for former students to express their opinions to the university administration. Confidentiality of response was guaranteed. Each member of the experimental group received one dollar in cash as an incentive. A postscript to their cover letters stated that the dollar was intended as a small token of appreciation for their assistance. Envelopes were hand-stamped and addresses were typed. Self-addressed, postage-paid return envelopes were provided.

A follow-up was conducted six weeks after the original mailing. Each student who had not responded by that time or who had responded anonymously was sent a follow-up packet which contained a letter explaining the importance of their response to the research project, another copy of the questionnaire, and a return envelope. Members of experimental group did not receive another incentive. Although a variety of methods which are considered effective for improving response rates were utilized, including personalization of survey materials and multiple contacts, students in both the experimental and control groups were treated identically with the

exception of the incentive.

FINDINGS

The findings of this study concern the effect of the incentive on response rate, representativeness, and survey costs. The overall survey response rate was 54.7%, with 196 students responding out of 358 who received questionnaires. (Questionnaires for the thirteen additional students could not be delivered, eight from the experimental group and five from the control group.) The first mailing produced a response rate of 39.1%, and 15.6% responded to the follow-up. As shown in Table 1, there were large differences between the experimental and control groups in total response rate and response to the first mailing and the follow-up. The total response rate for the experimental group was 63.5%, and nearly all of these subjects responded to the first mailing. A response rate of 54.2% was achieved with one mailing to this group, and an additional 9.4% responded to

Table 1. Survey Response Rates

	Survey Group	
Mailing	Experimental	Control
First Mailing	54.2%	21.7%
Follow-up Mailing	9.4%	22.9%
TOTAL	63.5%	44.6%

the follow-up. The total response rate for the control group was 44.6%. Approximately half of these students responded to the first mailing (21.7%) and half to the follow-up (22.9%).

In order to judge the representativeness of the survey respondents, members of the experimental and control populations were compared with respondents from the corresponding groups on fifteen demographic, academic, performance, and high school background characteristics.* Using SPSS (Statistical Package for the Social Sciences), t-tests were performed on the interval level variables, and the response categories of each non-interval level variable were converted into dummy variables for difference of proportions tests (Loether and McTavish, 1980). No statistically significant differences ($p < .05$) were found between the population and respondents of either the experimental group or the control group on any of the fifteen characteristics. The respondents from both groups were therefore considered representative of their respective populations. Respondents to the first mailing from both the experimental and control groups were also compared with their respective populations in order to determine representativeness. Males were underrepresented as first mailing respondents from the experimental group ($p = .039$), and blacks were underrepresented as first mailing respondents from the control group ($p = .028$). There were no other statistically significant differences between the

---

*These characteristics included five demographic variables (sex, ethnic status, age, residence, and citizenship), four academic variables (class, college, credit hours, and day or evening status), and three measures of academic performance (academic status, grade point average, and ACT score). High school background included the type, size, and location of the high school attended.

population and respondents to the first mailing. Experimental and control group respondents were compared on questionnaires responses, in addition to demographic, academic, and performance characteristics. One statistically significant difference emerged between the two respondent groups ($p = .011$), with a much larger percentage of experimental respondents stating that they had withdrawn from the university after completing all desired courses. This was only one of seventeen questions on the survey instrument, and any conclusion that response bias was introduced by offering the incentive cannot be based on this finding alone. In fact, from a research perspective it is an advantage that the incentive motivated a larger number of these particular students to respond. There were no statistically significant differences between members of the experimental and control groups who responded to the first mailing.

Survey costs for supplies, printing, and postage totaled 63 cents per subject for the control group and, with the inclusion of the one dollar incentive, $1.63 per subject for the experimental group. Each returned questionnaire added 24 cents in postage to these costs. Survey costs per respondent were calculated by dividing the total costs for mailing and returning the questionnaire by the number of respondents in that group. Total costs were $3.45 per respondent for the experimental group and $2.85 per respondent for the control group. This difference represents an overall cost per experimental respondent of just 21% more than the cost per control group respondent. The cost of the first mailing to the experimental group was $3.37 per respondent. Even though this figure includes the cost of the incentive, it was only 4% higher than the first mailing cost of $3.23 per

respondent for the control group. Costs for the follow-up mailing were much higher for the experimental group ($3.91) than for the control group ($2.49). This large cost per experimental respondent was due primarily to the very small percentage of subjects who responded to the follow-up, but also reflects the cost of sending the follow-up packet to a number of subjects who shortly thereafter returned questionnaires from the first mailing and thus were not counted as follow-up respondents. Comparisons of the survey costs per respondent for both the experimental and control groups and the two mailings are shown in Table 2. Although personnel costs were not calculated, these costs would have been higher for the control group due to the necessity of mailing the follow-up to a much larger number of nonrespondents.

To summarize the findings of this study, it was determined that the use of a token monetary incentive was an effective method for motivating

Table 2. Survey Costs per Respondent

	Survey Group	
Mailing	Experimental	Control
First Mailing	$3.37*	$3.23
Follow-up Mailing	$3.91	$2.49
TOTAL	$3.45*	$2.85

*Includes cost of $1 incentive for each of the 200 subjects.

responses to a mail questionnaire from students who have traditionally been difficult to survey. The response rate of 63.5% which was achieved by using an incentive was not only a substantial improvement over that of a control group, but was also twice as large as response rates often found in campus surveys (Matross, 1981). This is considered a good response rate for a mail questionnaire (Lin, 1976; Warwick and Lininger, 1975), although using the incentive along with other techniques such as additional follow-ups by mail or telephone may have resulted in an even larger percentage of returned questionnaires. Representativeness of the respondent group was not affected, and the benefit of using the incentive far outweighed the slightly higher cost.

The results of this study are even more striking when the experimental and control groups are compared on the first mailing alone. As Table 3 shows, over half of the subjects who received the incentive (54.2%), but less than a quarter of the control group (21.7%), responded to the first

Table 3. A Comparison of First Mailing Response Rates and Survey Costs

	Survey Group	
Comparison Factor	Experimental	Control
Response Rate	54.2%	21.7%
Cost per Respondent	$3.37*	$3.23

*Includes cost of $1 incentive for each of the 200 subjects.

mailing. By using an incentive the response rate was improved by 32.5%, and although the response rate of the experimental group was one and a half times larger than that of the control group, it was achieved at a nearly identical cost per respondent. Furthermore, the time, effort, and expense of sending a follow-up to the control group, while greatly increasing the final response rate, did not prove to be nearly as effective at eliciting responses as one mailing which included an incentive. This finding provides evidence that the gains in response rates which result from using a monetary incentive may enable researchers to dispense with follow-up mailings altogether, thus reducing survey-related personnel costs considerably.

CONCLUSIONS

Institutional planners have the rare opportunity to conduct research on populations which can be enumerated, individual by individual, and for which a wide variety of accurate information is available at the outset. This ability to identify the research subjects, as well as the educational level of the subjects, the geographic dispersion of student and former student populations, and the high cost of personal interviews, make the mail questionnaire a natural choice for the collection of vital academic data. Attempts to utilize the mail questionnaire with student populations are often frustratingly unsuccessful, however, because of the difficulty in motivating survey participation and the low response rates which occur as a result. This problem may be exacerbated when the research subjects are no longer associated with the institution.

The need for high quality data from students who have traditionally

been difficult to survey prompted this exploration of the effectiveness of token monetary incentives for improving mail questionnaire response rates. In this study of former students, the use of a one dollar incentive resulted in a response rate improvement of 18.9% over a control group without affecting the representativeness of the respondents or biasing responses. The additional cost of providing the incentive was negligible when compared with the increase in response rate. These findings are even more significant when only the first mailing is considered. The evidence exists in this study that the use of a token monetary incentive may eliminate altogether the need for follow-ups, which are particularly costly from the standpoint of time and personnel.

These results confirm the findings of previous studies, most of which were published over a decade ago, that prepaid incentives are useful tools for improving the response rates of mail questionnaires. In addition, the monetary incentive was shown to be as effective at motivating responses from a postsecondary student survey population as was demonstrated in the past with the general public and various commercial and occupational populations. The token monetary incentive is not only effective, but by eliminating unsuccessful research efforts which result from poor response rates and by reducing the survey-related costs associated with multiple contacts, it is also a cost-effective method. Institutional researchers who depend on student input to form the guidelines for decision-making on academic planning and policy issues will find the monetary incentive to be a worthwhile technique for enhancing the quality of survey data collected through mail questionnaires.

BIBLIOGRAPHY

Armstrong, J.S., 1975. "Monetary Incentives in Mail Surveys." Public Opinion Quarterly, 39, 111-116.

Armstrong, J.S. and Overton, T.S., 1971. "Brief vs. Comprehensive Descriptions in Measuring Intentions to Purchase." Journal of Marketing Research, 8, 114-117.

Blumberg, H.H., Fuller, C., and Hare, A.P., 1974. "Response Rates in Postal Surveys." Public Opinion Quarterly, 38, 113-123.

Cox, E.P., 1976. "A Cost/Benefit View of Prepaid Monetary Incentives in Mail Questionnaires." Public Opinion Quarterly, 40, 101-104.

Erdos, P.L., 1951. "Mail Surveys are Valid and Inexpensive." Advertising Agency, 44, 68-69.

Festinger, L., 1957. A Theory of Cognitive Dissonance. Evanston, Illinois: Row, Peterson, and Company.

Goodwin, R.K., 1979. "The Consequences of Large Monetary Incentives in Mail Surveys of Elites." Public Opinion Quarterly, 43, 378-387.

Hackler, J.C. and Bourgette, P., 1973. "Dollars, Dissonance, and Survey Returns." Public Opinion Quarterly, 37, 276-281.

Heberlein, T.A. and Baumgartner, R.M., 1978. "Factors Affecting Response Rates to Mailed Questionnaires: A Quantitative Analysis of the Published Literature." American Sociological Review, 43, 447-462.

Huck, S.W. and Gleason, E.M., 1974. "Using Monetary Inducement to Increase Response Rates from Mail Surveys." Journal of Applied Psychology, 59, 222-225.

Lin, N., 1976. Foundations of Social Research. New York: McGraw-Hill.

Linsky, A.S., 1975. "Stimulating Responses to Mailed Questionnaires: A Review." Public Opinion Quarterly, 39, 82-101.

Loether, H.J. and McTavish, D.G., 1980. Descriptive and Inferential Statistics: An Introduction. 2nd Ed. Boston: Allyn and Bacon.

Matross, R.P., 1981. "Uses and Abuses of Campus Opinion Polls." Journal of College Student Personnel, 22, 114-119.

Nederhof, A.J., 1983. "The Effects of Material Incentives in Mail Surveys: Two Studies." Public Opinion Quarterly, 47, 103-111.

Newman, S.W., 1962. "Differences Between Early and Late Respondents to a Mailed Survey". Journal of Advertising Research, 2, 37-39.

Warwick, D.P. and Lininger, C.A., 1975. The Sample Survey: Theory and Practice. New York: McGraw-Hill.

Wotruba, T.R., 1966. "Monetary Inducements and Mail Questionnaire Response." Journal of Marketing Research, 3, 398-400.